

CUSTOMER NO. 24222

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: FLETCHER, Lawrence P. et al.

Group Art Unit: 2819

Serial No. 10/635,263

Examiner: WILLIAMS, Howard L.

Filed: 08/06/2003

Atty. Dkt. No: MS001-US

For: DITHERING MODULE WITH DIPLEXER

To: Mail Stop ISSUE FEE
Commissioner for Patents
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From:

24222

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LETTER OF TRANSMITTAL

1. Transmitted herewith is Credit Card Payment Form PTO-2038, in the amount of \$ 974.00 for the issue fee, publication fee, if applicable and 3 advance copies, payable to the Commissioner of Patents and Trademarks, PTOL-85B Issue Fee Transmittal, and PTO/SB/47 Fee Address Form.

2. Drawings: ☐ were submitted on _____ to the Drawing Review Branch,
☐ were amended and submitted on _____ to the Examiner for approval, or
☒ were previously approved.

3. DEPOSIT ACCOUNT 500323 AUTHORIZATION – All necessary fees relating to the attached submittal are intended to be included herein. The office is hereby authorized to charge any deficiency or credit any overpayment in the fees relating to the attached submittal to deposit account **500323**, registered to Vernon C. Maine P.L.L.C., dba Maine & Asmus.
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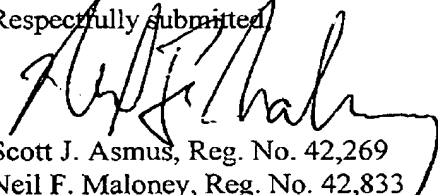
4. ☒ **STATEMENT OF THE SUBSTANCE OF INTERVIEW**

On June 8, 2004, the Examiner granted the Applicants' attorney the courtesy of the telephonic interview. U.S. Patent 6,268,814 (Kolsrud) and the Applicants' claim 7 were discussed. Kolsrud discloses: "Signal coupler 101 may be any suitable component for adding the analog dither signal 114 to the analog input signal 102, such as a passive component like a

CUSTOMER NO. 24222

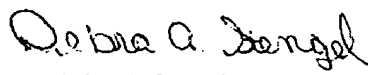
resistive or Wilkinson power divider or a directional or hybrid coupler, or an active component like a dual-gate FET or other transistor-based adder.” (col. 2, line 66 to col. 3, line 4). The Applicants noted that Kolsrud merely suggests the conventional use of power combiners and couplers, as typically done in dithering processes. The Applicants further noted that such combiners and couplers typically include an insertion loss of greater than 3 dB (in contrast to the “3 dB or less” as recited in the Applicant’s claim 7). In particular, power combiners such as the Wilkinson are usually configured with 3 dB pads, so as to divide the input signal evenly to the two output ports (note that 3 dB down is the equivalent of 50% power). Couplers also have such pads (3 dB or greater). Thus, the insertion loss associated with such devices is greater than 3 dB (3 dB pad plus inherent insertion loss). The Applicants further noted that such combiners and couplers generally require the two signals being combined to be in-phase and have comparable amplitudes, in order to get small insertion loss in both paths to be combined, not counting the use of 3 dB pads (or greater). Noise by definition is incoherent and therefore cannot have matching phase with any signal. The Examiner found these explanations to reflect favorably on the Applicants’ position.

Respectfully submitted,


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Date: 09/01/2004
☒ Debra A. Stengel